

CLAIMS

1. A method for a highly integrated radio receiver design comprising of
an in-phase mixer with one input connected to an RF input signal, and another input connected to a local oscillator signal,
a quadrature mixer with one input connected to said RF input signal, and another input connected to a 90 degree phase shifted local oscillator signal,
a polyphase image-reject filter with the ability to be tuned to track the intermediate frequency, the input of said polyphase image-reject filter connected to the outputs of said mixers,
a tuning circuit with a reference frequency input and whose output is used to control the tuning of said polyphase image-reject filter.
2. The method of claim 1 wherein the polyphase filter is followed by a second mixer with one input connected to a divided down local oscillator signal.
3. The method of claim 1 wherein the polyphase filter is followed by an intermediate frequency amplifier.
4. The method of claim 1 wherein the polyphase filter stage is followed by another polyphase filter stage.
5. The method of claim 1 wherein the polyphase filter is preceded by a buffer.

6. The method of claim 1 wherein the polyphase filter is preceded by an intermediate frequency amplifier.
7. The method of claim 1 wherein the polyphase filter consists of a resistor and capacitor network where the resistors are tunable.
8. The method of claim 1 wherein the polyphase filter consists of a resistor and capacitor network where the capacitors are tunable.
9. The method of claim 1 wherein the polyphase filter comprises both active and passive elements.
10. The method of claim 1 wherein the polyphase filter comprises of an amplifier, resistors, and capacitors.
11. The method of claim 1 wherein the receiver is implemented in CMOS technology.
12. The method of claim 1 wherein the receiver is implemented in any integrated circuit technology.